

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference 1079-PCT-02 | FOR FURTHER ACTION | | See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |
| International application No. PCT/US03/10000 | International filing date (day/month/year) 01 April 2003 (01.04.2003) | Priority date (day/month/year) 01 April 2002 (01.04.2002) | |
| International Patent Classification (IPC) or national classification and IPC IPC(7): CO2F 1/32 and US Cl.: 210/199 | | | |
| Applicant ONDEO DEGREMONT, INC. | | | |

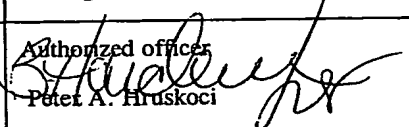
1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

| | |
|---|---|
| Date of submission of the demand 28 October 2003 (28.10.2003) | Date of completion of this report 16 August 2004 (16.08.2004) |
| Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230 | Authorized officer  Peter A. Hruskoci Telephone No. 571-272-0987 |

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US03/10000

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-6 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☒ the claims:
pages 7 and 8, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☒ the drawings:
pages 1-5, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.
- ☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages None
- ☒ the claims, Nos. None
- ☒ the drawings, sheets/fig None

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/10000

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

| | | |
|-------------------------------|--------------------|-----|
| Novelty (N) | Claims <u>1-11</u> | YES |
| | Claims <u>NONE</u> | NO |
| Inventive Step (IS) | Claims <u>NONE</u> | YES |
| | Claims <u>1-11</u> | NO |
| Industrial Applicability (IA) | Claims <u>1-11</u> | YES |
| | Claims <u>NONE</u> | NO |

2. CITATIONS AND EXPLANATIONS

Claims 1-6 and 8-11 lack an inventive step under PCT Article 33(3) as being obvious over Wedekamp in view of Wekhof or Veloz.. Wedekamp disclose (see col. 4 lines 13-62) an apparatus for irradiating fluids with UV substantially as claimed. The claims differ from Wedekamp by reciting that the apparatus includes specific upper and lower fluid diverters extending across the reaction chamber. Wekhof (see col. 4 line 26 through col. 5 line 37) and Veloz (see col. 4 lines 22-37) disclose that it is known in the art to utilize flow diverters or baffles extending across a reaction chamber containing a plurality of UV lamps to increase the exposure of a fluid to the UV radiation from the lamps. It would have been obvious to one skilled in the art to modify the apparatus of Wedekamp by including the recited diverters in view of the teachings of Wekhof or Veloz, to aid in increasing the exposure of the fluid to the UV radiation. The specific positioning of the diverters and the number of lamps utilized would have been an obvious matter of engineering design to one skilled in the art, depending on the specific fluid treated and results desired, absent a sufficient showing of unexpected results.

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Wedekamp in view of Wekhof or Veloz as applied above and further in view of Bergmann et al.. The claim differs from the references as applied above by reciting that the apparatus includes a UV sensor extending into the reaction chamber for each UV lamp. Bergmann et al. disclose (see col. 3 lines 30-44) that it is known in the art to utilize a UV sensor to determine the intensity of UV radiation from a UV radiator or lamp. It would have been obvious to one skilled in the art to modify the references as applied above by including the recited sensors in view the teachings of Bergmann et al., to determine the intensity of UV radiation from each UV lamp.

Claims 1-11 meet the criteria set out in PCT Article 33(2), because the prior art does not disclose the structure of the apparatus recited in the instant claims.

Claims 1-11 have industrial applicability and meet the criteria set out in PCT Article 33(4) because the apparatus can be used in industry to irradiate fluids.

----- NEW CITATIONS -----

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The description is objected to as containing the following defect(s) under PCT Rule 66.2(a)(iii) in the form or contents thereof: In the specification on page 4 line 15 "18" should be changed to 18 a-d, and on page 5 line 4 "18A and B" and "18C and D" should be changed to 18a and b, and 18 c and d, respectively, to be consistent with Figs. 6-8.